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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09.842,731	04.27.2001	Katsuhiko Torii	02-047	7460

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EXAMINER

CUEVAS, PEDRO J

ART UNIT	PAPER NUMBER
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2834

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/842,731

Applicant(s)

TORII ET AL.

Examiner

Pedro J. Cuevas

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 0303
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed on March 21, 2003 have been fully considered but they are not persuasive.
2. In response to applicant's argument that Arai fails to show groove-like reduced thickness portion exposed to air, it must be noted that Arai does describe pipes, passageways, and outlets that direct a cooling fluid (any substance at a lower temperature than the operating temperature of the motor) to the groove-like reduced thickness portion.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3-4, 8, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,547,687 to Arai.

Arai clearly teaches the construction of a micromotor with built-in cooling medium pipes comprising a yoke housing (2) and an armature (6) rotatably received within said yoke housing, said yoke housing comprising:

a plurality of primary magnetic poles (1a, 1b), including permanent magnets, secured to an inner peripheral surface of said yoke housing for providing magnetic fields to said armature; and

a plurality of groove-like reduced thickness portions (3a, 3b) for increasing a magnetic resistance, said plurality of groove-like reduced thickness portions being integrally formed in said yoke housing, wherein:

a number of said plurality of groove-like reduced thickness portions is equal to a number of said plurality of primary magnetic poles; and

each said groove-like reduced thickness portion extends along a center line of a corresponding one of said plurality of primary magnetic poles (Figure 4), extending linearly in an axial direction of said yoke housing and covering an entire axial length of said corresponding one of said plurality of primary magnetic poles, and has said entire outer surface of said groove-like reduced thickness portion exposed to air (cooling fluid) by pipes (C), passageways (10), and outlets (13).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,547,687 to Arai in view of U.S. Patent No. 4,933,582 to Hata et al.

Arai disclose the construction of a micromotor with built-in cooling medium pipes as described above.

However, it fails to disclose the construction of a yoke housing is:

formed as a generally oblate cylinder that includes opposing generally parallel flat sections and opposing arcuate sections, each said arcuate section has one of said plurality of primary magnetic poles secured to an inner peripheral surface of each said arcuate section,

configured such that a wall thickness of each said flat section is larger than a wall thickness of each said arcuate section, and gradually increases from a circumferential center of each said arcuate section toward each one of opposing circumferential ends of each said arcuate section.

Hata et al. teach the construction of a magnet-retaining structure for a motor:

formed as a generally oblate cylinder (2) that includes opposing generally parallel flat sections and opposing arcuate sections, each said arcuate section has one of said plurality of primary magnetic poles (4) secured to an inner peripheral surface of each said arcuate section; and

configured such that a wall thickness of each said flat section is larger than a wall thickness of each said arcuate section, and gradually increases from a circumferential center of each said arcuate section toward each one of opposing circumferential ends of each said arcuate section for the purpose of permitting the simplification of the manufacture of component parts of the motor, and preventing the resilient retainer from dislocation and the magnets from displacement in the axial direction.

It would have been obvious to one skilled in the art at the time the invention was made to use the magnet-retaining structure disclosed by Hata et al. on the micromotor with built-in

cooling medium pipes disclosed by Arai for the purpose of permitting the simplification of the manufacture of component parts of the motor, and preventing the resilient retainer from dislocation and the magnets from displacement in the axial direction.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,547,687 to Arai in view of common knowledge in the art.

The method of forming the device is not germane to the issue of patentability of the device itself. Therefore, this limitation has not been given patentable weight.

8. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,547,687 to Arai in view of U.S. Patent No. 4,933,582 to Hata et al. as applied to claims 5-7 above, and further in view of common knowledge in the art.

Arai in view of Hata et al. discloses the claimed invention except for a wall thickness of each said groove-like reduced thickness portion is equal to or less than 40% of a wall thickness of each said flat section.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to set the wall thickness of each said groove-like reduced thickness portion to be equal to or less than 40% of a wall thickness of each said flat section, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO-892.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pedro J. Cuevas whose telephone number is (703) 308-4904. The examiner can normally be reached on M-F from 8:30 - 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor R. Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-1341 for regular communications and (703) 305-3432 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Pedro J. Cuevas
May 26, 2003

